positioned in a pathway of the generated sound waves. At least a portion of the housing is optically transparent.

Vona describes an "extracorporeal" lithotripter. (See Figure 1.) An extracorporeal lithotripter is designed to be placed outside the body, because an objective of extracorporeal lithotripsy is to provide a non-invasive procedure requiring no incision. (See enclosed website pages of American Kidney Stone Management and Florida Urology Specialists.) In addition, extracorporeal lithotripsy devices are not small enough so that they can be placed inside a body. (See website pages of American Kidney Stone Management.)

Vona does not teach or suggest an interventional device comprising a sonoluminescent light module for placement inside a body. Applicant submits that Vona's device is neither capable of nor designed to be placed inside a body.

Therefore, amended claim 1 and claims depending therefrom, are submitted to be patentable over Vona.

Rejection of Claims 1, 2, 5-8, 10-13, and 15-17 under 35 U.S.C. § 102(b)

In the final Office Action in the parent application, Claims 1, 2, 5-8, 10-13, and 15-17 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,893,614 to Takayama et al. ("Takayama").

Takayama also describes an "extracorporeal" lithotripter. Takayama specifically states that an underwater shock wave is produced outside the human body. (See Abstract.)

Takayama does not teach or suggest an interventional device comprising a sonoluminescent light source for placement inside a body. Moreover, the apparatus described by Takayama does not have a housing which has a portion that is optically transparent. This is because, Takayama's objective is not to generate or apply light to a body. Takayama does not even recognize that it may be possible to generate light from sound waves.

Therefore, applicant submits that claims 1 and 16, and claims depending therefrom, are patentable over Takayama.

Rejection of Claims 3, 4, 9, 14, 20-30, 32-44, and 47-50 under 35 U.S.C. § 103(a)

In the final Office Action in the parent application, claims 3, 4, 9, 14, 20-30, 32-44, and 47-50 were rejected under 35 U.S.C. § 103(a) over PCT Publication No. WO 92/15253 to Chapelon et al. ("Chapelon") in view of Takayama and U.S. Patent No. 4,948,975 to Erwin et al. ("Erwin").

Claims 3, 4, 9, and 14 depend from amended claim 1.

Chapelon describes an endo-rectal probe for destroying prostate tissue using ultrasonic sound waves, not light. The probe includes a piezoelectric transducer element for emitting ultrasonic sound waves. In one example, the probe includes a membrane which completely surrounds the transducer. (Pg. 14, lns. 21-30.) A coupling fluid is provided inside the membrane. (Pg. 14, lns. 24-28.) The membrane is transparent to sound waves. (Pg. 14, lns. 32-34.) The transducer focuses ultrasonic sound waves on a focal point. As shown in Figure 1, the focal point is outside the membrane.

Chapelon does not teach or suggest an interventional device comprising a sonoluminescent light module. Chapelon's probe cannot generate sonoluminescent light, because it does not have a lens for focusing sound waves in the acoustic conducting medium. Instead, Chapelon's probe focuses sound waves in a tissue region to be destroyed. Moreover, Chapelon does not teach or suggest a housing that has at least a portion that is optically transparent. Since Chapelon's objective is to focus sound waves in a tissue region to destroy the tissue region, Chapelon provides a housing that is transparent to sound waves not light.

With respect to Chapelon, the final Office Action indicated that the coupling fluid described in Chapelon is considered to be sufficient to generate light because the present application does not specify an acoustic conducting medium that is capable of generating light. Applicant submits that on page 13 of the present application, water is provided as an example of the acoustic conducting medium that is capable of generating light. (Pg. 13, lns. 2-3.) Chapelon, however, does not describe any specific type of acoustic conducting medium.

Erwin describes a quantitative luminescence imaging system. The system is capable of measuring low light levels from luminescent reactions in electromagnetic fields in the areas of chemiluminescence assays and thermal microdoscimetry. A sample is excited to produce a luminescent reaction when irradiated in an RF field. The low light level image from the sample is imaged using a camera. (col. 4, lns. 17-29.) Erwin does not teach or suggest an interventional device. Erwin also does not teach or suggest a sonoluminescent light module.

Takayama does not teach or suggest an interventional device comprising a sonoluminescent light module as recited in amended claim 1.

Chapelon, Takayama, and Erwin, taken individually or in combination, do not teach or suggest an interventional device comprising a sonoluminescent light module for placement inside a body. Vona, as mentioned above, describes an "extracorporeal" lithotripter, and thus Vona adds nothing to Chapelon, Takayama, and/or Erwin. Therefore, Applicant submits that claims 3, 4, 9, and 14 are patentable over these cited references.

Claim 20 recites an interventional device comprising an arc lamp for placement inside a body.

Claim 32 recites an interventional device comprising a fluorescent light source for placement inside a body.

Claim 41 recites an interventional device comprising a spark gap module for placement inside a body.

Claim 47 recites an interventional device comprising an incandescent lamp for placement inside a body and for generating short duration high intensity light waves.

Claims 20, 32, 41, 47, and their dependent claims, appear to be rejected based on Chapelon, Vona, and official notice that the claimed light sources are well known to those skilled in the art to be used for performing tissue identification.

Manual of Patent Examination Procedure § 2144.03 provides that:

> The examiner may take official notice of facts outside of the record which are capable of instant and unquestionable demonstration as being "well known' in the art." . . . . If the applicant traverses such an assertion, the examiner should cite a reference in support of his or her position.

Applicant traverses the official notice that an arc lamp, a fluorescent light source, a spark gap module, or an incandescent lamp are well known to be used for performing tissue identification and requests references in support of this position.

Even if an arc lamp, a fluorescent light source, a spark gap module, or an incandescent lamp is known to be used for performing tissue identification, Applicant submits that there is no teaching or suggestion in either Chapelon or Vona to provide one of these light sources inside an interventional device for placement inside a body. Chapelon describes a probe for destroying tissue by generating sound waves not sonoluminescent light, and Vona teaches away from generating sonoluminescent light. Vona describes harmful effects of UV and X-ray photons generated by the lithotripter. (See pg. 706.) Therefore, claims 20, 32, 41, 47, and claims depending therefrom are patentable over the cited references in combination with the official notice.

Conclusion

In view of the foregoing, Applicant respectfully requests allowance of all pending claims (i.e., 1, 3-12, 14-17, 20-30, 32-44, 47-50) in due course.

Respectfully submitted,

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